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What is claimed is:

1. An apparatus for sequencing DNA, comprising:

(a) a nanoscale electrometer; and

(b) a protein that is capable of transcribing said DNA and said protein is immobilized on said nanoscale electrometer to receive and transcribe said DNA.

2. The apparatus as set forth in claim 1, wherein said nanoscale electrometer is a single electron transistor and said protein is immobilized on a gate of said single electron transistor.

3. The apparatus as set forth in claim 2, further comprising a voltage to charge said single electron transistor.

4. The apparatus as set forth in claim 2, wherein said single electron transistor comprises an island range of 2 to 20 nm.

5. The apparatus as set forth in claim 2, wherein said single electron transistor comprises a tunnel junction with a range of 0.1 to 10 nm.

6. The apparatus as set forth in claim 2, wherein said single electron transistor has a charge sensitivity on the order of a hundredth of an electron with a 100 μs response time.

7. The apparatus as set forth in claim 2, wherein said gate of said single electron transistor is constructed with gold or coated with gold.

8. The apparatus as set forth in claim 2, wherein said single electron transistor is a room temperature single electron transistor.

9. The apparatus as set forth in claim 1, wherein said nanoscale electrometer is a nanoparticle device comprising:

(a) two electrodes; and

(b) a nanoparticle positioned in between said two electrodes.

10. The apparatus as set forth in claim 9, wherein said protein is immobilized on said nanoparticle to receive said DNA.

11. The apparatus as set forth in claim 9, wherein said nanoparticle is a gold nanoparticle.

12. The apparatus as set forth in claim 9, wherein said nanoparticle is less than 2 nm in diameter.

13. The apparatus as set forth in claim 9, wherein said nanoparticle has a sensitivity on the order of a hundredth of an electron with a 100 μs.

14. The apparatus as set forth in claim 9, wherein said nanoparticle is a room temperature nanoparticle.

15. The apparatus as set forth in claim 1, wherein said protein is a RNA polymerase.

16. The apparatus as set forth in claim 1, further comprising monitoring means attached to said nanoscale electrometer to monitor an electronic charge configuration as said DNA moves through said protein.

17. The apparatus as set forth in claim 16, further comprising computing means to compute a correlation between said electronic charge configuration and a nucleotide signature of said DNA.

18. A method for sequencing DNA, comprising the steps of:

(a) immobilizing a protein that is capable of transcribing said DNA on a nanoscale electrometer; and

(b) delivering said DNA to said protein.

19. The method as set forth in claim 18, wherein said nanoscale electrometer is a single electron transistor and said protein is immobilized on a gate of said single electron transistor.

20. The apparatus as set forth in claim 19, further comprising the step of applying a voltage to charge said single electron transistor.

21. The method as set forth in claim 18, wherein said nanoscale electrometer is a nanoparticle device comprising:

(a) two electrodes; and

(b) a nanoparticle positioned in between said two electrodes.

22. The method as set forth in claim 21, wherein said protein is immobilized on said nanoparticle to receive said DNA.

23. The method as set forth in claim 18, wherein said protein is a RNA polymerase.

24. The method as set forth in claim 18, further comprising the step of monitoring an electronic charge configuration at said nanoscale electrometer as said DNA moves through said protein.

25. The method as set forth in claim 24, further comprising the step of computing a correlation between said electronic charge and a nucleotide signature of said DNA.

26. An integrated circuit chip for sequencing one or more DNA samples, comprising:

(a) a plurality of interconnected nanoscale electrometers; and

(b) a plurality of proteins that are capable of transcribing said one or more DNA samples and said proteins are immobilized on said plurality of interconnected nanoscale electrometers to receive and transcribe said one or more DNA samples.

27. The integrated circuit chip as set forth in claim 26, wherein said nanoscale electrometers are single electron transistors and for each of said single electron transistors one of said proteins is immobilized on a gate of said single electron transistor.

28. The integrated circuit chip as set forth in claim 27, further comprising a voltage to charge said single electron transistors.

29. The integrated circuit chip as set forth in claim 27, wherein each one of said single electron transistors comprises an island range of 2 to 20 nm.

30. The integrated circuit chip as set forth in claim 27, wherein each one of said single electron transistor comprises a tunnel junction with a range of 0.1 to 10 nm.

31. The integrated circuit chip as set forth in claim 27, wherein each one of said single electron transistors has a charge sensitivity on the order of a hundredth of an electron with a 100 μs response time.

32. The integrated circuit chip as set forth in claim 27, wherein each one of said gates of said single electron transistors is constructed with gold or coated with gold.

33. The integrated circuit chip as set forth in claim 27, wherein each one of said single electron transistors is a room temperature single electron transistor.

34. The integrated circuit chip as set forth in claim 26, wherein said nanoscale electrometers are nanoparticle devices, wherein each one of said nanoparticle devices comprises:

(a) two electrodes; and

(b) a nanoparticle positioned in between said two electrodes.

35. The integrated circuit chip as set forth in claim 34, wherein for each of said nanoparticle one of said proteins is immobilized.

36. The integrated circuit chip as set forth in claim 34, wherein said nanoparticle is a gold nanoparticle.

37. The integrated circuit chip as set forth in claim 34, wherein said nanoparticle is less than 2 nm in diameter.

38. The integrated circuit chip as set forth in claim 34, wherein said nanoparticle has a sensitivity on the order of a hundredth of an electron with a 100 μs.

39. The integrated circuit chip as set forth in claim 34, wherein said nanoparticle is a room temperature nanoparticle.

40. The integrated circuit chip as set forth in claim 26, wherein said proteins are RNA polymerases.

41. The integrated circuit chip as set forth in claim 26, further comprising monitoring means attached to said nanoscale electrometers to monitor electronic charge configurations as said one or more DNA samples move through said proteins.

42. The integrated circuit chip as set forth in claim 16, further comprising computing means to compute one or more correlations between said electronic charges and nucleotide signatures of said one or more DNA samples.

43. A method for sequencing one or more DNA samples, comprising the steps of:

(a) immobilizing a plurality of proteins that are capable of transcribing said DNA samples on a plurality of nanoscale electrometers; and

(b) delivering said DNA samples to said proteins.

44. The method as set forth in claim 43, wherein said nanoscale electrometers are single electron transistors and for each of said single electron transistors one of said proteins is immobilized on a gate of said single electron transistor.

45. The method as set forth in claim 44, further comprising the step of applying a voltage to charge said single electron transistors.

46. The method as set forth in claim 43, wherein said nanoscale electrometers are nanoparticle devices, wherein each one of said nanoparticle devices comprises:

(a) two electrodes; and

(b) a nanoparticle positioned in between said two electrodes.

47. The method as set forth in claim 46, wherein for each of said nanoparticle one of said proteins is immobilized.

48. The method as set forth in claim 43, wherein said proteins are RNA polymerases.

49. The method as set forth in claim 43, further comprising the step of monitoring electronic charge configurations at said nanoscale electrometers as said DNA moves through said proteins.

50. The method as set forth in claim 49, further comprising the step of computing one or more correlations between said electronic charge configurations and nucleotide signatures of said DNA.